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WHAT IS CLAIMED IS:

1. A reaction product comprising at least
  - a) acrylic acid or methacrylic acid or a mixture of acrylic or methacrylic acid and
  - b) a (meth)acrylic ester of substituted or unsubstituted phenol, C<sub>1</sub>-C<sub>8</sub>-hydroxyalkylbenzene or C<sub>1</sub>-C<sub>8</sub>-hydroxyalkoxybenzene and methyl (meth)acrylate in the molar ratio of from 5:95 to 100:0,  
5-90% of the acrylic or methacrylic acid units having reacted with a glycidylvinyl compound.
2. A reaction product according to claim 1, wherein component (a) is methacrylic acid.
3. A reaction product according to claim 1, wherein the (meth)acrylic ester of component (b) is benzyl methacrylate.
4. A reaction product according to claim 1, wherein the glycidylvinyl compound is glycidyl methacrylate.
5. A reaction product according to claim 1, wherein the molar ratio of component a) to component b) is from 85:15 to 15:85.
6. A reaction product according to claim 1, wherein the molecular weight of the reaction product is 10 000-120 000 g/mol.
7. A reaction product according to claim 1, wherein the molecular weight of the reaction product is 20 000-90 000 g/mol.

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8. A reaction product according to claim 1, which has an acid number of 0.4-5.0 mol/kg, referred to the reaction product.
9. A photopolymerizable composition, substantially comprising
  - i) a reaction product according to claim 1,
  - ii) a monomeric or oligomeric acrylate having at least two ethylenically unsaturated, terminal groups,
  - iii) a polymerization initiator or initiator system which produces free radicals, cations or anions and can be activated by actinic radiation and,
  - iv) if desired, an organic or inorganic filler.
10. A photopolymerizable composition, substantially comprising
  - i) a reaction product according to claim 1,
  - ii) if desired, a monomeric or oligomeric acrylate having at least two ethylenically unsaturated, terminal groups,
  - iii) a polymerization initiator or initiator system which produces free radicals, cations or anions and can be activated by actinic radiation,
  - iv) if desired, an organic or inorganic filler,
  - v) a thermal polymerization inhibitor and
  - vi) a solvent or solvent system.
11. A photopolymerizable composition, substantially comprising
  - i) 15-70% by weight of the reaction product according to claim 1,
  - ii) 0-30% by weight of monomeric or oligomeric acrylate having at least two ethylenically unsaturated, terminal groups,
  - iii) 0.1-15% by weight of a polymerization initiator or initiator system which produces free radicals, cations or anions and can be activated by actinic radiation,
  - iv) 0-60% by weight of an organic or inorganic filler,
  - v) 0.01-0.5% by weight of a thermal polymerization inhibitor and
  - vi) 20-80% by weight of a solvent or solvent system,

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the percentages of the components being based on the total weight, with the proviso that the sum of the percentages by weight is 100.

12. A process for producing an etch resist image or solder resist image, comprising the process steps:

- I. Application of a photopolymerizable composition according to claim 10 to a substrate;
- II. removal of the solvent from the applied composition with formation of a film of the photopolymerizable composition on the substrate;
- III. if desired, exposure of the coated substrate to actinic radiation;
- IV. if desired, removal of the unexposed parts of the coating with the aid of an alkaline-aqueous or organic solvent with baring of the substrate; and
- V. if desired, thermal curing and, if desired, UV curing of the coating remaining on the substrate.

13. A process according to claim 12, wherein the exposure (III) is effected with the aid of a photomask or directly by means of a laser.

14. A process for producing an etch resist image or solder resist image, comprising the process steps:

- I. Application of the photopolymerizable composition according to claim 10 to a substrate by means of an inkjet method;
- II. removal of the solvent from the applied composition with formation of a dried photopolymerizable composition on the substrate;
- III. if desired, uniform exposure of the coated or structured substrate to actinic radiation; and
- IV. if desired, thermal curing and, if desired, UV curing of the coating remaining on the substrate.

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15. A photopolymerizable element comprising a substrate which carries a photopolymerizable layer, substantially comprising

- A) 25-85% by weight of the reaction product according to claim 1,
- B) 5-40% by weight of monomeric or oligomeric acrylate having at least two ethylenically unsaturated, terminal groups;
- C) 1-25% by weight of an addition polymerization initiator or initiator system which produces free radicals, cations or anions and can be activated by actinic radiation;
- D) 0-60% by weight of an organic or inorganic filler and
- E) 0.025-1.0% by weight of a thermal polymerization inhibitor;

the percentages of the components being based on the total weight, with the proviso that the sum of the percentages by weight is 100, having a thickness of 0.1-400  $\mu\text{m}$ .

16. A photopolymerizable element according to claim 15, wherein the thickness of the photopolymerizable layer is 3-50  $\mu\text{m}$ .

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